

US010168

Appl. No. 09/825,045
Amdt. Dated June 24, 2005
Reply to Final Office Action of May 13, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions,
and listings, of claims in the application:

Listing of Claims:

1. (currently amended): A selective noise canceling headset,
5 comprising:
- at least one earpiece for reproducing a selected audio
signal;
- a microphone for monitoring an external audio signal in
a vicinity of said headset; and
- 10 a selective noise suppression circuit for analyzing
said external audio ~~signal, signal, including: for in the absence
of undesired noise permitting said external audio signal to be
added to said selected audio signal for reproduction via said at
least one earpiece, and for preventing such reproduction of said~~
15 ~~external audio signal at times that undesired noise is present.~~
- an audio classifier coupled to said
microphone for receiving said external audio signal,
said audio classifier being operative through use of
audio content analysis algorithms, to analyze the
20 audio content of said external audio signal to
determine if at a given time a segment is a desired
external signal, and if so to output a "use signal,"
but if not to output a "suppress signal," said desired
external signal segment(s) including any one or

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combination of an audio alarm signal, a dog barking,
and speech directed to a user of said earpiece; and

a noise canceling circuit for receiving both
a selected audio signal and said external audio
signal, and being responsive to the presence of said
use signal to pass said external audio signal along
with said selected audio signal for reproduction, and
responsive to the presence of said suppress signal to
prevent passage of said external signal, said noise
canceling circuit also being selectively operable for
canceling said selected audio signal during the
presence of said use signal.

2. (canceled).

3. (original): The selective noise canceling headset of claim 1,
wherein said reproduced portion of said external audio signal is
acoustically distinct from a general background noise of a local
environment.

4. (canceled).

5. (canceled).

6. (canceled).

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7. (previously presented): The selective noise canceling headset of claim 1, wherein said selective noise suppression circuit amplifies portions of said external audio signal to be added to said selected audio signal.

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8. (currently amended): A selective noise canceling device, comprising:

a microphone for monitoring an external audio signal;

and

10 a selective noise suppression circuit for analyzing said external audio signal, ~~for in the absence of undesired noise permitting at least a portion of said external audio signal to be reproduced, and for preventing such reproduction of said external audio signal at times that undesired noise is present.~~ including:

15 an audio classifier coupled to said microphone for receiving said external audio signal, said audio classifier being operative through use of content-based audio segmentation analysis techniques, to analyze said external
20 audio signal to determine if at a given time a segment is a desired external signal, and if so to output a "use signal," but if not to output a "suppress signal"; and

25 a noise canceling circuit for receiving said external audio signal, and being responsive to the presence of said use signal to pass said external audio signal, and responsive to the

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presence of said suppress signal to prevent
passage of said external signal for reproduction.

9. (original): The selective noise canceling device of claim 8,
5 wherein said reproduced portion of said external audio signal is
an alarm audio signal.

10. (original): The selective noise canceling device of claim 8,
wherein said reproduced portion of said external audio signal is
10 acoustically distinct from a general background noise of a local
environment.

11. (original): The selective noise canceling device of claim 8,
wherein said reproduced portion of said external audio signal is
15 associated with speech directed to a user of said device.

12. (original): The selective noise canceling device of claim 8,
wherein said selective noise suppression circuit suppresses said
external audio signal unless a portion of said external audio
20 signal is likely to be of interest to a user.

13. (original): The selective noise canceling device of claim 8,
wherein said selective noise suppression circuit segments said
external audio signal and reproduces only a desired portion of
25 said external audio signal that is likely to be of interest to a
user.

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14. (previously presented): The selective noise canceling device of claim 8, wherein said selective noise suppression circuit amplifies portions of said external audio signal to be reproduced.

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15. (currently amended): A selective noise canceling method, comprising:

monitoring an external audio signal;

analyzing said external audio ~~signal,~~ signal through
10 use of content-based audio segmentation, to identify portions
thereof that may be of interest to a user;

amplifying the identified portions of said external
audio signal that are ~~free of undesired noise; and of interest;~~

suppressing the portions of said external audio signal
15 not identified; and

adding said amplified portions of said external audio
signal to a selected audio signal for reproduction thereof.

16. (original): The selective noise canceling method of claim
20 15, wherein said reproduced portion of said external audio signal
is an alarm audio signal.

17. (original): The selective noise canceling method of claim
15, wherein said reproduced portion of said external audio signal
25 is acoustically distinct from a general background selective
noise of a local environment.

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18. (original): The selective noise canceling method of claim 15, wherein said reproduced portion of said external audio signal is associated with speech directed to a user of said method.

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19. (canceled).

20. (original): The selective noise canceling method of claim 15, further comprising the step of segmenting said external audio
10 signal and reproducing only a desired portion of said external audio signal that is likely to be of interest to a user.

21. (canceled).

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